

Claims

[c1] What is claimed is:

1.A multifunction meter comprising:

a single display unit;

a first input configured to receive feedback from an engine configured to deliver power to a power converter;

a second input configured to receive feedback from the power converter, the power converter configured to deliver a welding-type power to a welding-type apparatus; and

a processing unit connected to the single display unit, the first input, and the second input, and configured to process the feedback from the engine and the feedback from the power converter and display data indicative of engine operation and power output of the power converter on the single display unit.

[c2] 2.The multifunction meter of claim 1 further comprising at least one mode of selection button connected to the processing unit to regulate the display of data.

[c3] 3.The multifunction meter of claim 1 wherein the multifunction meter is electrically connected to an engine ignition switch.

- [c4] 4.The multifunction meter of claim 1 wherein the data displayed includes at least one of voltage and current of the welding-type power.
- [c5] 5.The multifunction meter of claim 1 wherein the data displayed includes at least one of an hour meter, engine temperature, engine oil level, and engine RPM.
- [c6] 6.The multifunction meter of claim 1 wherein the processing unit is further configured to store at least one of a unit serial number, a software revision number, and a date of manufacture.
- [c7] 7.The multifunction meter of claim 1 wherein the processing unit is further configured to display error codes.
- [c8] 8.The multifunction meter of claim 1 wherein the processing unit is further configured to display an hours of operation data and maintenance data.
- [c9] 9.The multifunction meter of claim 8 wherein the hours of operation data is resetable.
- [c10] 10.The multifunction meter of claim 1 wherein the display data is accessible independent of an engine running condition.
- [c11] 11.The multifunction meter of claim 1 wherein the pro-

cessing unit is further configured to display data of at least one accessory receptacle.

- [c12] 12.A welding-type apparatus comprising:
 - an engine;
 - a mechanical to electrical power converter connected to the engine and configured to generate a power signal suitable for welding processes; and
 - a multifunction meter configured to display engine condition data and power signal data.
- [c13] 13.The welding-type apparatus of claim 12 wherein the power signal data includes at least one of voltage and current.
- [c14] 14.The welding-type apparatus of claim 12 wherein the engine condition data includes at least one of hours of operation, RPM, temperature, and oil level.
- [c15] 15.The welding-type apparatus of claim 12 wherein the multifunction meter includes a plurality of digital displays to concurrently display the engine condition data and the power signal data.
- [c16] 16.The welding-type apparatus of claim 12 wherein the multifunction meter further comprises at least one menu selection button.

- [c17] 17.The welding-type apparatus of claim 12 wherein the multifunction meter is further configured to display an auxiliary receptacle condition.
- [c18] 18.The welding-type apparatus of claim 12 wherein the multifunction meter is further configured to display at least one of a user identity data, a software version data, a unit identity data, and an error code data.
- [c19] 19.A method of monitoring a welding-type device comprising the steps of:
receiving at least two sets of data indicative of a welding-power signal;
receiving data indicative of an engine condition; and
displaying the data indicative of a welding-power signal and the data indicative of an engine condition on a single set of meters.
- [c20] 20.The method of claim 19 wherein the step of displaying data further comprises toggling between the received data.
- [c21] 21.The method of claim 19 further comprising the steps of receiving data indicative of an accessory receptacle power signal.
- [c22] 22.The method of claim 19 further comprising the step of sensing at least one of welding current and welding

voltage.

- [c23] 23.The method of claim 19 further comprising sensing at least one of an engine RPM, an engine temperature, an engine load, and an engine fuel level.
- [c24] 24.The method of claim 19 further comprising displaying data indicative of at least one of a unit serial number, a software version number, a date of manufacture, an hours of operation, a maintenance schedule, and a system error.
- [c25] 25.The method of claim 19 further comprising displaying data indicative of purchaser identity.
- [c26] 26.A welding-type apparatus comprising:
 - a power source configured to generate electrical power suitable for welding processes;
 - an engine configured to provide mechanical power to the power source;
 - a single set of meters to display volts and amps of the electrical power; and
 - means for on demand displaying of engine condition data on the single set of meters.
- [c27] 27.The welding-type apparatus of claim 26 wherein the engine condition data includes at least one of hours of operation, RPM, oil level, and engine temperature.

- [c28] 28. The welding-type apparatus of claim 26 wherein the means for displaying on demand engine condition data further comprises means for selecting which data is displayed.
- [c29] 29. The welding-type apparatus of claim 26 further comprising a torch and workpiece cable electrically connectable to the power source.
- [c30] 30. The welding-type apparatus of claim 26 wherein the means for displaying on demand engine condition data further comprises means for displaying auxiliary outlet signal data.
- [c31] 31. The welding-type apparatus of claim 26 wherein the means for displaying on demand engine condition data further comprises means for displaying at least one of a unit identity data, a user identity data, a program identity data, and an error code data.